Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A luminance dynamic range system, comprising:

an image processing module for transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

a spatial low pass filter, responsive to L_{in} for outputting a filtered luminance component L_f, wherein L_f is a function only of L_{in}, wherein the low pass filter ~~is small enough that~~ allows shadow regions ~~are passed~~ to pass through as low luminance, and ~~large enough to filter~~ filters out detail in high-contrast regions; and

a luminance compression module for gamut mapping that varies across different parts of the input image, spatially adapting ~~the~~ a luminance compression function according to local image characteristics in such a manner as to preserve both shadow detail and overall image contrast, responsive to L_f and L_{in} for performing luminance compression on the input component L_{in} to output a compressed luminance signal L_{out} that is within an achievable luminance range of an output device; wherein the luminance compression module combines two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$, thereby, producing an overall compression function; wherein the function L_{comp1} is optimized for preserving the overall image contrast and the function L_{comp2} is optimized for preserving shadow detail; wherein the functions $L_{comp1}(L_{in})$, $L_{comp2}(L_{in})$ and $\alpha(L_f)$ are all 1-dimensional functions only of L_{in}; and wherein the functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are both designed such that the overall compression function is spatially smooth and to map ~~the~~ a luminance dynamic range of the input image to ~~the~~ a more limited luminance dynamic range of the output device.

2. (Canceled).

3. (Currently Amended) The system of claim 1, wherein the function L_{out} is computed according to the relationship $L_{out} = \alpha(L_f)\, L_{comp1}(L_{in}) + (1 - \alpha(L_f))\, L_{comp2}(L_{in})$.

4. (Currently Amended) The system of claim 1, wherein the function $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

5-6. (Canceled)

7. (Currently Amended) The system of claim 4, wherein:

~~$\alpha(L_f) = 0$~~ the function $\alpha(L_f)$ is equal to 0 for values of L_f between 0 and B_1;

the function $\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

~~$\alpha(L_f) = 1$~~ the function $\alpha(L_f)$ is equal to 1 for values of L_f between B_2 and L_{max}, where L_{max} is a maximum luminance achievable by the output device.

8. (Canceled).

9. (Original) The system of claim 1, wherein the low pass filter comprises a constant weight filter.

10. (Previously Presented) The system of claim 1, wherein the input image is down-sampled prior to filtering and upsampled and interpolated after filtering.

11. (Original) The system of claim 1, further comprising a color correction module for transforming L_{out}, C_1 and C_2 to CMYK for printing.

12. (Currently Amended) A method for luminance dynamic range mapping, comprising:

transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2;

spatially low pass filtering L_{in} into a filtered luminance component L_f, wherein L_f is a function only of L_{in}, wherein the low pass filtering ~~is small enough that~~ passes shadow

regions ~~are passed~~ through as low luminance, and ~~large enough to filter~~ filters out detail in high-contrast regions; and

processing L_f and L_{in} through a luminance compression module for gamut mapping that varies across different parts of the input image, spatially adapting ~~the~~ a luminance compression function according to local image characteristics in such a manner as to preserve both shadow detail and overall image contrast, to obtain a compressed luminance signal L_{out} that is within an achievable luminance range of an output device; wherein the processing step comprises combining two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$, thereby, producing an overall compression function; wherein the function L_{comp1} is optimized for preserving overall image contrast and the function L_{comp2} is optimized for preserving shadow detail; wherein the functions $L_{comp1}(L_{in})$, $L_{comp2}(L_{in})$ and $\alpha(L_f)$ are all 1-dimensional functions only of L_{in}; and wherein the functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are both designed such that the overall compression function is spatially smooth and to map the luminance dynamic range of the input image to the more limited luminance dynamic range of the output ~~device.~~ device, wherein the above steps are performed by a processor.

13. (Canceled).

14. (Currently Amended) The method of claim 12, wherein the functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ are combined according to the relationship $L_{out} = \alpha(L_f)\ L_{comp1}(L_{in}) + (1 - \alpha(L_f))\ L_{comp2}(L_{in})$.

15. (Currently Amended) The method of claim 12, wherein the function $\alpha(L_f)$ is a piecewise linear function, determined by two breakpoints, B_1 and B_2.

16-17. (Canceled).

18. (Currently Amended) The method of claim 15, wherein:

$\cancel{\alpha(L_f) = 0}$ the function $\alpha(L_f)$ is equal to 0 for values of L_f between 0 and B_1;

the function $\alpha(L_f)$ increases linearly from 0 to 1 for values of L_f from B_1 to B_2; and

~~$\alpha(L_f) = 1$~~ the function $\alpha(L_f)$ is equal to 1 for values of L_f between B_2 and L_{max}, where L_{max} is a maximum luminance achievable by the output device.

19. (Canceled).

20. (Original) The method of claim 12, wherein the spatial low pass filtering comprises applying a constant weight filter.

21. (Original) The method of claim 12, further comprising down-sampling the input image prior to filtering and upsampling and interpolating the input image after filtering.

22. (Original) The method of claim 12, further comprising applying a color correction for transforming L_{out}, C_1 and C_2 to CMYK for printing.